

# Catastrophe of E-Commerce among Malaysian SMEs – Between Its Perceived and Proven Benefits

(Di Persimpangan Perdagangan Elektronik di Kalangan PKS di Malaysia – Di antara Manfaat Andaian dan Kenyataan)

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## ABSTRACT

*There is a substantial interest in the adoption of e-commerce by firms, particularly the small and medium enterprises (SMEs). SMEs are said to gain considerably from using the e-commerce because the Internet provides equal access to both SMEs and large organizations. It is also said SMEs which adopt e-commerce will improve their businesses and finally increase their profit. However, little is known concerning the benefits that SMEs have gained by adopting e-commerce and to what extent have SMEs achieved these benefits. Thus, this paper aims to analyse between the benefits that SMEs perceived they have gained and the proven benefits they realised. Survey and face-to-face interviews were carried-out in this study. The study found a number of interesting facts. Many respondents in the survey indicated that they gained some benefits, such as, more customers, increased sales, and increased productivity. Yet, the interviews did not substantiate such claims. This paper looks at these views critically and finally provides some suggestions and recommendations.*

**Keywords:** ICTs; internet; Malaysia; e-commerce; SMEs; innovation; diffusion

## ABSTRAK

*Terdapat suatu minat yang amat mendalam mengenai penerimaan e-dagang di kalangan firma, terutama perusahaan kecil dan sederhana (PKS). PKS dikatakan menerima manfaat yang banyak daripada penggunaan e-dagang disebabkan teknologi internet menyediakan akses yang sama rata kepada kedua-dua PKS dan organisasi besar. Dikatakan juga PKS yang menggunakan e-dagang akan dapat menambahbaik perniagaan mereka dan akhirnya akan menjana keuntungan. Walau bagaimanapun, faedah yang diterima dari penggunaan e-dagang dan sejauh mana ia diterima oleh PKS kurang mendapat perhatian. Kajian ini ingin mengupas isu ini. Ia bertujuan menganalisa persoalan samada faedah dalam menggunakan e-dagang yang dijangkakan oleh PKS adalah juga faedah yang sebenarnya mereka perolehi. Survei dan temubual telah digunakan dalam kajian ini. Beberapa fakta menarik ditemui. Kajian survei menunjukkan bahawa kebanyakan PKS memperoleh lebih ramai pelanggan, dan juga peningkatan jualan dan produktiviti dalam penggunaan e-dagang. Namun, temubual tidak menyokong kenyataan sedemikian. Artikel ini melihat pendapat-pendapat ini secara kritis dan akhirnya memberi beberapa pandangan dan cadangan.*

**Kata kunci:** Teknologi maklumat dan komunikasi; internet; Malaysia; e-dagang; PKS; inovasi; penyebaran

## INTRODUCTION

E-commerce has been described in the large body of literature since the explosion of Internet technology. Empirical researches, especially at the technological innovator level, suggested that e-commerce has a significant and positive impact on businesses everywhere (Chuang et al. 2007; Daniel et al. 2003; Pool et al. 2006). Policymakers and practitioners seemed certain that e-commerce conveys undisputed benefits (Daniel 2003; Pool et al. 2006). Many have predicted that e-commerce will give a tremendous boost to trade. The EMarketer website (2013), for example, reported that Asia-Pacific contributes the most new dollars to e-commerce sales compared to other regions. In 2013 alone, e-commerce sales are expected to grow up to 23% in the region, with sales in China and Indonesia growing particularly fast, up to 65% and 71%, respectively. The Forrester Research

website predicted that e-commerce sales will increase at a higher compounded average growth rate (CAGR) than in-store sales whether there is a recession or not (Quoc et al. 2008). Indeed, Ragowski and Dalton (2013) claimed that customers are now more connected on the Internet and more empowered. Thus, companies need a new approach to delivering customer experiences, such as e-commerce, in this volatile world.

It has been suggested that SMEs may adopt e-commerce because of its immense benefits (Daniel et al. 2003; Martin & Matlay 2003; Poon & Jevons 1997). It is also said that only by adopting e-commerce, SMEs can level their playing field to large firms (Riquelme 2002). Through e-commerce can SMEs penetrate the global market, sell 24 hours a day, and seven days a week (Martin & Matlay 2003). Despite the benefits e-commerce can offer to SMEs, research shows that e-commerce is still dominated by large multinational firms (Tassabehji 2003). E-commerce has not been readily

adopted by SMEs (Fillis, Johansson & Wagner 2004; Grandon & Pearson 2004; MacGregor & Vrazalic 2007; Pool et al. 2006; Sahadev & Islam 2005). Even when e-commerce is adopted, evidences from many developed and developing countries show that the adoption is still limited to e-mails and web pages (Alam et al. 2007; Grandon & Pearson 2004; MacGregor & Vrazalic 2007; Ordanini 2006). Indeed, many SMEs are still waiting the benefits of e-commerce, particularly a website with online transaction capabilities, in their businesses.

The benefits of e-commerce among SMEs are very subjective. Some researchers, particularly ICT consultants, claimed that many SMEs use e-commerce and they have considerably benefited from this medium. For example, a study by a Malaysian ICT consultancy firm (IDC 2005), reported that 86% of firms in Malaysia have websites, 17% of SMEs are active in an e-marketplace, and many have gained from e-commerce (IDC 2005). Mohammad and Ismail (2009) also claimed that many SMEs have benefitted from e-commerce and may have traded online. Despite these claims, other researchers, particularly those from academics, stated that the benefits of e-commerce among SMEs are still vague. MacGregor and Vrazalic (2007), for example, found many e-commerce benefits among SMEs actually fall into the intangible category; very few SMEs in their study gain any tangible benefits, such as increased profit. Scupola (2009) stated that many SMEs in her study are still struggling to determine the advantages of e-commerce to their businesses. In the same vein, Zhu and Kraemer (2005) also argued that firms in their study were still unclear if expenditure on e-commerce improved their businesses. Thus, there is a need to understand the actual benefits SMEs have gained if they are encouraged to adopt e-commerce. This paper seeks to address this gap in the current literature – to analyse the perceived benefits SMEs claimed they have gained and the benefits they realised. The paper is structured as follows: Section 1 presents the research problem, section 2 is on literature review, section 3 describes the methodology, and section 4 presents the conceptual framework of the study. Findings and discussion are presented in section 5; and implications, as well as recommendations, are presented in section 6.

## LITERATURE REVIEW

### DEFINING E-COMMERCE

Though the term 'e-commerce' is widely used, yet there is no agreed definition as to what it is (Daniel & Wilson 2002; Kendall et al. 2001). The World Trade Organisation 2010 (WTO 2010), for example, defines e-commerce as "the production, distribution, marketing, sales or delivery of goods and services by electronic means" (Fredriksson 2013). The Organisation for Economic Co-operation and Development (OECD) defines e-commerce as commercial transactions, involving both organisations and individuals that are based upon the processing and transmission of

digitised data including text, sound and visuals images and that are carried out over open networks (like, the internet) or closed networks (like, AOL or Mintel) that have gateway onto an open network. Wigand (1997: 2) defines e-commerce as "the seamless application of ICT from its point of origin to its end point along the entire value chain of business processes conducted electronically and designed to enable the accomplishment of a business goal." Meanwhile, Turban et al. (2003) define it as a process of buying and selling or exchanging products, services, and information via computer networks, including the Internet. However, over the years, many researchers have coined other definitions, depending on their research context and objectives (Grandon & Pearson 2004; MacGregor & Vrazalic 2007), whilst some researchers adapted other e-commerce definitions.

Zwass (1996: 1), for example, defines e-commerce as "sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunication networks." No matter what the definition is, there are two common elements in e-commerce. First, e-commerce concerns activities that occur through electronic means, such as sharing business information, and buying and selling. The second element is the technological means that enable these activities. The difference lies in how some researchers define these two elements. Some define the e-commerce term as generally as possible, including all business activities carried out over any electronic media, which include radio and television (e.g. Timmers 1999; Wigand 1997). Others are comfortable with more specific definitions and focus on certain activities or technological means, such as the private networks, value added network and the Internet (e.g. Beveren & Thomson 2002; Turban et al. 2003; Zwass 1996).

Zwass' (1996) definition of e-commerce has been widely used and adapted by many studies of e-commerce. Although Zwass' (1996) e-commerce definition is still being used by some researchers, some other researchers thought that the 'the telecommunication network' that Zwass indicated in his definition is too broad. Thus, many other researchers, such as Macgregor and Vrazalic's (2007) and Scupola's (2009) definition of e-commerce, has narrowed their scope to only the Internet. In the same vein of the latter studies, this study also adopts MacGregor and Vrazalic's (1997) and Scupola's (2009) e-commerce definition, which is:

"E-commerce is sharing of business information, maintaining business relationships, and conducting business transaction by means of Internet-based technology."

There are many e-commerce activities that researchers use to examine e-commerce adoption in organisations. Table 1 is a list of some examples of e-commerce activities used in some e-commerce prominent studies.

Table 1 shows types of e-commerce activities that have been explored in various studies. It was found that regardless of the kind of e-commerce activities or

TABLE 1. A list of e-commerce activities

| Authors and titles                      | Analysis of e-commerce activities   | Analysis of Technology/<br>Application Used  |
|---|---|--|
| 1. Hashim, Abdullah and Hanafiah (2013) | <ul style="list-style-type: none"> <li>• Website</li> <li>• Online buying</li> <li>• E-mail</li> </ul>  | <ul style="list-style-type: none"> <li>• Website</li> <li>• Online buying</li> <li>• E-mail</li> </ul>   |
| 2. Thi and Lim (2011)                   | <ul style="list-style-type: none"> <li>• E-procurement</li> <li>• Website</li> <li>• E-mail</li> </ul>  | <ul style="list-style-type: none"> <li>• e-mail</li> <li>• Website for B2B</li> <li>• Online buying</li> </ul>                                   |
| 3. Oliveira and Martins (2010)          | <ul style="list-style-type: none"> <li>• E-business</li> <li>• E-marketplace</li> </ul>   | <ul style="list-style-type: none"> <li>• Website</li> </ul>  |
| 4. MacGregor and Vrazalic (2007)        | <ul style="list-style-type: none"> <li>• E-mail</li> <li>• Website</li> <li>• Customer Relationship management (CRM)</li> <li>• Procurement</li> </ul>                      | <ul style="list-style-type: none"> <li>• E-mail</li> <li>• Website for online for CRM</li> <li>• Online buying</li> </ul>                        |
| 5. Pool et al. (2006)                   | <ul style="list-style-type: none"> <li>• Communication</li> <li>• Selling</li> <li>• Purchasing</li> </ul>  | <ul style="list-style-type: none"> <li>• E-mail</li> <li>• Website for online selling</li> <li>• Website with supply chain management</li> </ul> |
| 6. Fillis et al. (2004)                 | <ul style="list-style-type: none"> <li>• Distribution</li> <li>• Purchasing</li> <li>• Selling</li> </ul>   | <ul style="list-style-type: none"> <li>• E-mail</li> <li>• Website for online selling</li> <li>• Online buying</li> </ul>                        |
| 7. Grandon and Pearson (2004)           | <ul style="list-style-type: none"> <li>• Purchasing</li> <li>• Selling</li> </ul>   | <ul style="list-style-type: none"> <li>• Website for online selling</li> <li>• Online buying</li> </ul>  |
| 8. Thompson and Ranganathan (2004)      | <ul style="list-style-type: none"> <li>• Distribution</li> <li>• Exchange business information</li> <li>• Purchasing</li> <li>• Selling of products and services</li> </ul> | <ul style="list-style-type: none"> <li>• Website</li> <li>• Extranet</li> </ul>  |

technologies that firms adopt, whether communicating with customers, or displaying product and service information, or any other more complicated websites such as those with customer relationship management (CRM) or supply chain management (SCM), there are just three basic components of e-commerce that have been studied to demonstrate the extent of usage of e-commerce among organisations, which are e-mail, online buying, and websites (for online selling of products and services). Thus, these three components of e-commerce will be used in this study to examine the benefits of e-commerce adoption among SMEs in this study.

#### SMALL AND MEDIUM-SIZED ENTERPRISES (SMES)

Small and medium-sized enterprises (SMES) have always formed the backbone of national economies. Indeed, most governments regard the SME sector as a major driver of the economy and a source of employment opportunities (MacGregor & Vrazalic 2007). Part of the reasons is because SMES constitute more than 90% of businesses in a country (BERR 2008; OECD 2009). In the UK, for example, there are an estimated of 4.3 million businesses, of which 99.9% are SMES (BERR 2008). SMES account for between 30% and 70% of the gross domestic product of most countries (OECD 2009). In Malaysia, SMES (commonly called Small and Medium-sized Industries, SMIS) form the

bulk of companies in the country and they play a crucial role in the country's industrialisation. They now account for more than 90% of total businesses (Malaysia 2004).

Every country has its own definition of SMES and there is no formal classification of what constitutes an SME (Curran & Blackburn 2001). Even within country, the definition of SMES varies (Beaver 2002); and even the definition varies amongst those government agencies as each seems to have its own criterion. This is further complicated by definitions varying over time (Hashim & Wafa 2002). However, the variation in definition does suggest that any definition of SMES must include a quantitative component that takes into account staff levels, turnover, and assets, together with financial and non-financial measurements, and that the description must also include a qualitative component that reflects how the business is organised and how it operates (Meredith 1994). In general, many researchers define SMES using its quantitative criteria, such as number of employees, amount of capital, amount of assets and sales turnover (Hashim & Wafa 2002; Yap, Soh & Raman 1992).

Nevertheless, there are two common ways of defining SMES found in the literature. Firstly, the definition is based on financial turnover and secondly the definition is based on number of employees (Curran & Blackburn 2001). Definitions based on financial turnover however have been found to be problematic (Curran & Blackburn 2001) as

this is difficult to measure, and varies by sector (Storey 1994). Critics argue that financial turnover changes over time with inflation (Bridge, O'Neil & Cromie 1998). Thus, definitions based on number of employees are more acceptable, and is most commonly used by policy makers (Curran & Blackburn 2001) and researchers (e.g. Cragg & King 1993; Cragg 2002; DeLone 1988). Employment size is considered more objective and transparent as compared to turnover (Curran & Blackburn 2001), and is also more practical as "information about employment is readily available and ... considered by managers to be less confidential" (Pratten 1991: 93).

For the purpose of this study, SME is defined by the number of people employed by the firm. More specifically, consistent with Ismail and King (2007), an SME is defined as a firm employing 10 to 250 employees. This is also in line with the definition of SMEs used in other countries (European Commission 2002). Very small firms (fewer than 10 employees) will be excluded since they are likely to approach IT issues very differently (Hussin, King & Cragg 2002) and because their numbers would swamp those of larger SMEs. The exclusion of very small firms in studies of ICT is consistent with earlier studies, such as Kula and Tatoglu (2003), Igbaria et al. (1997) and Ismail and King (2007).

#### STUDIES OF BENEFITS FOR ADOPTING E-COMMERCE

There are not many studies that focus on the benefits of adopting e-commerce (e.g. Beal & Abdullah 2002; MacGregor & Vrazalic 2007). A review on these studies shows both sides of arguments, those that are in favour of e-commerce, as well as doubts over the real benefits that a firm may get. To start, this section will consider those studies that presented arguments in favour of e-commerce. The next section will look at studies that produced empirical evidences that critically analysed the possible tangible and intangible benefits of e-commerce.

Several authors have presented interesting explanations on why firms should adopt e-commerce. Most of these authors based their arguments on the utilisation of e-commerce as a powerful tool to target a larger pool of customers. For instance, Beal and Abdullah (2002) argued that the Internet offers the means for reaching many potential customers. Customers can view a firm's website, find information on its products and services, and finally buy the products or services online. It is often stressed that with the Internet, firms can do business all over the world, 24 hours a day, and 7 days a week. Through e-commerce, users (consumers and businesses alike) have more choices and can shop at more convenient times. Customers can compare prices and conditions of sales to obtain the best terms. Similarly, Turban et al. (2003) contended that e-commerce opens firms' doors to the entire world, thus distance is no longer a barrier. Firms can sell their products and services anywhere as long as the other parties are connected to the Internet. Through e-commerce, there is

no need for intermediaries; and as such, customers can communicate directly with producers.

Additionally, other arguments in favour of e-commerce adoption outline other benefits. Kaur (2005), for instance, highlighted the fact that e-commerce allows businesses to communicate and share information. It lowers communication costs and reduces the time-to-market for goods and services (Kaur 2005).

Another line of argument revolves around competitive parity. This argument contends that since most of the others are adopting e-commerce, and thus attracting more customers, to maintain competitive parity, e-commerce adoption is absolutely necessary. For instance, Akkeren and Cavaye (1999) argued that businesses that are not involved in e-commerce will be left behind in the global marketplace. This same sentiment is reflected in Porter (2001) and Adham and Ahmad (2005) when they declared e-commerce to be one of the 'preconditions' for a firm's success in today's business world.

However, alongside these persuasive arguments, several researchers have also presented significant empirical studies that present opposite view points. There is limited evidence that e-commerce conveys tangible benefits to organisations. Pool et al. (2006), for example, claimed that many firms are still struggling to determine whether e-commerce brings advantages to their businesses. Similarly, Zhu and Kraemer (2005) also argued that firms in their study are still unclear if expenditure on e-commerce improved their businesses. Many e-commerce benefits actually fall into the intangible category (MacGregor & Vrazalic 2004). In the UK, Daniel and Wilson (2002) found that firms adopting e-commerce do not gain as many benefits as they expected. The benefits SMEs expected after e-commerce implementation did not match the drivers that actually persuaded them to adopt e-commerce (Daniel & Wilson 2002). Daniel and Wilson (2002) also found that the greatest benefits to firms are limited to internal knowledge sharing and communication between employees within the firm. Firms in Australia also reported that they did not reap significant short-term benefits from e-commerce (Poon & Swatman 1999). In fact, the latest Sensis e-Business report (2008) found that nearly 50% of SMEs that had recovered their e-commerce investment claimed they did not know what their return on investment had been (Sensis e-Business 2008). To make it worse, some firms claimed that e-commerce means distraction from core activities, and in some circumstances, may even involve significant costs and risks (Brown 2002). The benefits arising from e-commerce developments are highly subjective (Daniel & Wilson 2003; MacGregor & Vrazalic 2007; Zhu & Kraemer 2005); it depends on whether the organisation's investment in e-commerce is translated into advantages. Table 2 displays some benefits of e-commerce adoption found in previous studies.



TABLE 2. E-commerce benefits: A summary of research

| Benefits received                              | Reported by   |
|--|---|
| Reduced operating costs                        | Abell and Lim (1996); MacGregor and Vrazalic (2007); Poon and Swatman (1998); Quayle (2002); Stockdale and Standing (2004). |
| Enhanced status                                | Abell and Lim (1996); Rodriguez (2005)  |
| Increased sales                                | Abell and Lim (1996); MacGregor and Vrazalic (2007).  |
| Increased productivity                         | Mustafa and Beaumont (2004)   |
| Market expansion                               | Abell and Lim (1996); Daniel and Wilson (2002); Poon and Swatman (1998); Quayle (2002).                                     |
| Faster completion of task – improve efficiency | Corbitt and Thanasakit (2002); MacGregor and Vrazalic (2007).   |

Source: adapted from MacGregor and Vrazalic (2007, p. 162)

#### CONCEPTUAL FRAMEWORK

The conceptual framework of this study is based on Iacovou, Benbasat and Dexter (1995), where they studied the benefits of EDI adoption. Iacovou et al. (1995) extended Rogers (1995) and Tornatzky and Fleischer (1990) framework by looking at the consequences after the adoption, such as the impacts or the benefits. Figure 1 shows the graphical representation of the conceptual framework of the study.

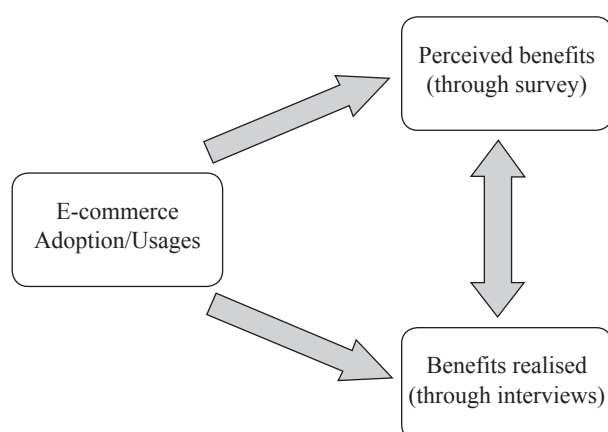


FIGURE 1. Conceptual framework of the study

The framework in Figure 1 is used in this study to investigate the benefits of e-commerce adoption among SMEs in Malaysia by answering these 3 research questions; 1) What are the perceived benefits of e-commerce adoption 2) What are the real benefits that managers realised after adopting e-commerce, and 3) Are the benefits found in the survey consistent with the ones found in the interviews.

#### METHODOLOGY

The data for this study had been gathered in two phases. Phase 1 involves eight preliminary telephone interviews with SME managers to explore their understanding on e-commerce and also to help the researcher to design the

questionnaire. Phase 2 involves a large survey and semi-structured interviews.

A large-scale survey was administered to SMEs all across Malaysia. Survey was used because it is one of the most widely-used research techniques in social sciences (Burton 2000). Moreover, it is more suitable in study that targets a large number of companies located in wide geographical area, such as Malaysia. Other studies that used survey in large number of companies include Daniel et al. (2002) and MacGregor and Vrazalic (2007). A total of 3535 SMEs with 10 to 250 employees were constructed from three prominent databases in Malaysia: the SME Corp (Small and Medium-sized Industry Development Corporation) database, the FMM (Federal Manufacturers Malaysia) database, and the PIKOM (Association of the Computer and Multimedia Industry) database. A total of 3535 questionnaires were sent to CEOs of SMEs by mail. Out of 3535 SMEs, 547 questionnaires were returned, but only 522 (14.8%) questionnaires were found to be usable for the data analysis. Surprisingly, of the 522 respondents, 514 (98.5%) have an Internet connection and almost three-quarter of the total had been using the Internet for the past ten years. This indicates that most SMEs in this study had exposure to the Internet.

Face-to-face and telephone interviews were also carried out with SME managers who adopt and do not adopt e-commerce. The interviews are important to provide the researcher with detailed insights into the issues being studied (Creswell 1994; Silverman 1993). This method also allows researchers to question the managers closely of what have they gained or loss (if any) after using e-commerce. Based on the returned survey, the SME managers were chosen randomly from the list of respondents. The process of choosing the respondents was carried out using these steps:

1. Those respondents were divided into two groups:
  - a. Group A: E-commerce adopters were classified into three categories – (1) those who have e-mail, (2) buy online, and (3) have a website; and
  - b. Group B: Non-adopters were classified into four categories – (1) do not use the Internet in their

- businesses, (2) do not use e-mail, (3) do not have websites and (4) do not buy online.
2. Respondents were contacted for the interview's arrangement. Most of the time, e-mail was used to communicate with the respondents. Telephone calls and SMS were used for those respondents without e-mail. Thirty-five agreed to participate initially. However, seven decided to withdraw prior to the

interviews. Finally, twenty-eight interviews were conducted with the SME managers. From the total of twenty-eight, ten were adopters of e-commerce and eighteen were non-adopters (see Table 3). This number is justified as previous researchers have interviewed between four and ten respondents to gather their qualitative data (e.g., Iacovou et al. 1995; Scupola 2003).

TABLE 3. Firms selected for interviews

| Firm | Type of firm | Number of full-time employees | Age of firm | Received government grant | Products and services                                |
|------|--------------|-------------------------------|-------------|---------------------------|--|
| I    | S            | 80                            | 9           | Yes                       | E-commerce solution                                  |
| II   | M            | 65                            | 11          | Yes                       | Food and beverages                                   |
| III  | M            | 210                           | 20          | No                        | Financial services                                   |
| IV   | S            | 45                            | 10          | No                        | Biometric and high technology                        |
| V    | S            | 15                            | 5           | No                        | Media publishing and event management                |
| VI   | M            | 100                           | 12          | Yes                       | Health products packaging                            |
| VII  | M            | 50                            | 43          | No                        | Fruit and vegetable packaging                        |
| VIII | O            | 26                            | 8           | No                        | IT solution industry                                 |
| IX   | MS           | 18                            | 14          | Yes                       | Computer servicing                                   |
| X    | MS           | 34                            | 6           | No                        | Exhibition design and construction                   |
| A    | M            | 20                            | 19          | No                        | Food and crackers                                    |
| B    | M            | 100                           | 21          | No                        | Coconut and palm industries                          |
| C    | M            | 20                            | 15          | No                        | Bakery products, shortening and star fruit           |
| D    | M            | 20                            | 12          | No                        | Beverages  |
| E    | M            | 50                            | 20          | Yes                       | Plastic motor components                             |
| F    | M            | 30                            | 17          | No                        | Automobile manufacturing                             |
| G    | M            | 60                            | 18          | No                        | Elastic bands, knit tape, narrow fabric accessories  |
| H    | M            | 30                            | 11          | No                        | Electronic alarm system and engineering services     |
| I    | M            | 70                            | 15          | Yes                       | Wooden rubber wood furniture                         |
| J    | M            | 15                            | 19          | Yes                       | Motorcycle spare parts and accessories, motorcycles  |
| K    | M            | 80                            | 20          | No                        | Building manufacturing                               |
| L    | M            | 16                            | 15          | No                        | Agricultural products and chemicals                  |
| M    | S            | 30                            | 11          | No                        | Imaging technology                                   |
| N    | S            | 45                            | 8           | Yes                       | IT infrastructure and system integration maintenance |
| O    | MS           | 35                            | 10          | No                        | Gold and jewellery services                          |
| P    | MS           | 15                            | 15          | No                        | IS and IT consultancy, and executive desktop         |
| Q    | MS           | 60                            | 13          | No                        | Health and food supplements                          |
| R    | O            | 200                           | 9           | No                        | Building and constructions                           |

Note: M: Manufacturing

S: Services

MS: Manufacturing and Services

O: Others

I – X: E-commerce adopters

A – R: Non-adopters of e-commerce

As stated in the literature review, three e-commerce components were investigated to understand the benefits of e-commerce adoption among SMEs; e-mail, website for online selling and online buying. Benefits of e-mail and online buying were explored during the interviews with SME managers. Meanwhile, the benefits of having websites

were gathered from the survey and also from the interviews. Part of the reasons is because the preliminary findings of this study found that the benefits for having e-mail and online buying were consistent among respondents. SME managers do not need to invest to have an e-mail address or to buy online. However, in having a website for sales

activities, managers need to invest in terms of money and time to set up a website. Frequencies of the benefits of e-commerce were explored in the survey to find the top most benefits of website adoption that managers thought they have gained. On the other hand, qualitative data gathered in the interviews helped the researcher to get detailed information on issues of e-commerce benefits that SMEs actually gained.

## FINDINGS AND DISCUSSION

522 SMEs participated in this survey. Out of these, 497 (95%) use e-mail in their businesses. However, only 309

have websites (to indicate online selling) and only 149 (29%) have ever bought online. From the 28 SMEs that participated in the interviews, 24 SMEs have used e-mail in their businesses, ten have bought online before, and seventeen SMEs have set-up a company website with the intention of online selling. The data will be used to discuss the benefits that SMEs perceived they have gained.

## BENEFITS OF E-COMMERCE

Table 4 shows the benefits of each of e-commerce components found in the survey of this study. These are followed with explanation on the benefits gained by each of the components.

TABLE 4. Perceived benefits

| E-commerce components | Benefits perceived   |
|-----------------------|--|
| E-mail                | <ul style="list-style-type: none"> <li>• Ease of communication</li> <li>• Can distribute information to large group with better efficiency and clarity</li> </ul>  |
| Online buying         | <ul style="list-style-type: none"> <li>• Convenient and flexible in buying</li> <li>• Save time</li> <li>• Enjoyable stress release</li> </ul>   |
| Website adoption      | <ul style="list-style-type: none"> <li>• Market expansion</li> <li>• More customers</li> <li>• Increased sales</li> <li>• Enhanced status</li> <li>• Increased productivity</li> <li>• Faster tasks accomplishment</li> <li>• Reduced operating costs</li> </ul> |

*Benefits of Having an E-Mail* Almost 75% of the SME managers interviewed said that e-mail is the most convenient way to communicate nowadays, particularly with their employees. More than half of the managers interviewed were enthusiastic about e-mail and insisted that e-mail has eased their communication. They said that they can call for a meeting using e-mail and they can even send attachment through e-mail. According to most of the managers, e-mail has created an efficient and flexible environment with their employees. They said that e-mail enables them to distribute messages to large group of people with better efficiency and clarity. They can contact their employees anytime and share information without a face-to-face meeting.

“E-mail is a common medium for communication nowadays. I use e-mail a lot in my business. I even send messages to my employees from time to time to encourage them to use e-mail and to communicate with me.”

SME managing director from firm O & SME managing director from firm IV

“E-mail? It is a necessity. I use e-mail a lot and even access my e-mail through my telephone if I am not at my computer. I am very used to e-mailing, and I just feel lost if I cannot access my e-mail, even though it is only for one day.”

SME manager from firm V

It is interesting to know that most of SME managers claimed that the first thing that they did upon entering their office is to check on their e-mail before they proceed with their work. Some of the SME managers said that they ‘feel lost’ when the Internet is down because they cannot check their e-mail.

Many SME managers have started using e-mail to promote their goods and services to their customers and potential customers. This can be done, according to the managers, by sending flyers or leaflets via e-mail attachments. Many managers also claimed that these have lowered their advertising costs.

“I send flyers and advertisement to my customers using e-mail attachments. There is so much more that can be done using e-mail. I have yet to explore its potential due to my hectic schedule. But I believe this is what we need at the moment.”

SME manager from firm VIII

*Benefits of Buying Online* Benefits of online buying were also explored with the ten managers who have conducted online purchases before. Almost all the managers stated that among the benefits gained from online buying are convenience and flexibility. SME managers remarked that they do not have to travel or be kept on hold on the phone to buy things. They can compare

prices of goods and services when they intended to do their purchases online. They can simply fill in an online form, get a quote and pay, all at the same time. This saves a lot of time. SME managers also stated that they can do online purchasing whenever they like because online shops do not have fixed working hours. Some SME managers find online buying as an enjoyable stress release, especially if they buy in a bidding system, such as eBay.

"I think one of the benefits of online buying is to buy products and services that we cannot get in this country. It is good to have opportunities to buy things overseas. We usually buy things only from reliable websites."

SME manager from firm III

"I buy airlines tickets and book hotels online. I think this is really convenient. I sometimes get cheaper deals online, especially when the firms have promotions. The firms usually send my confirmation via e-mail. So, I just print my e-mail and show it at the airline ticket counter or to the hotel receptionist."

SME managing director from firm I

According to the managers interviewed, another benefit of online buying is that it has opened up opportunities for them to look for products and services not available locally. Indeed, the searching of some of these products has opened up an opportunity for the managers to import the products and sell them locally.

**Benefits of Website Adoption** Out of 522 SME respondents, 309 SMEs have websites. 272 (88%) claimed that they received some sort of benefit from the adoption. This study found four major benefits that they have gained from using websites: market expansion, more customers, increased sales, and enhanced status. Market expansion and increase in the number of customers are the benefits experienced by almost two-thirds of SMEs with websites (see Figure 2). More than half of the managers interviewed said they have gained some benefits of having websites.

"We have more customers now. We get many questions from customers all over the world. So, I think we have managed to

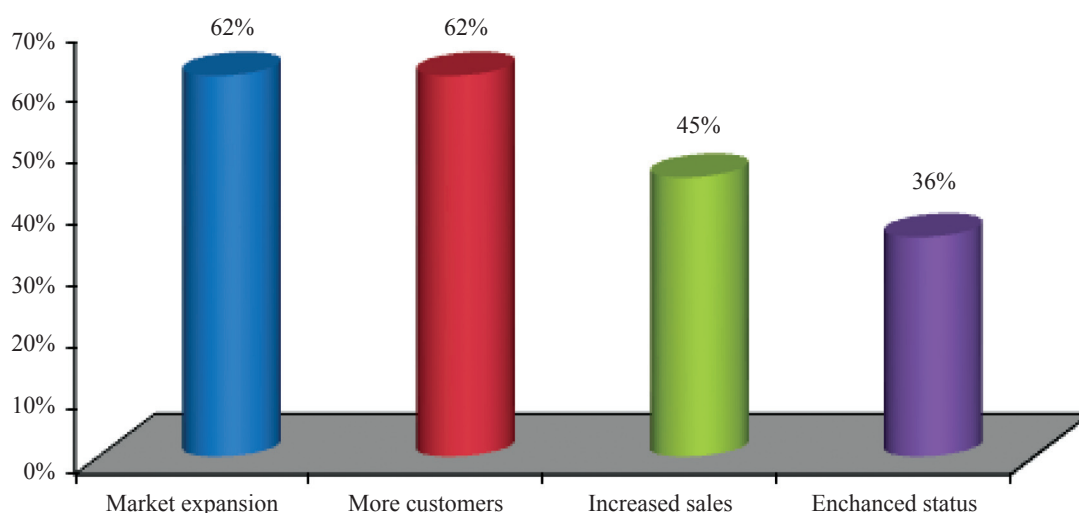


FIGURE 2. Major benefits from websites (n = 309)

Source: survey

expand our market outside the country by having a website. We receive overseas orders."

SME manager from firm VII

"I do believe we can expand our market to the world. There are many of our local products which are unknown elsewhere. We need to penetrate this opportunity. I have sold some of my products to people in Australia and the UK."

SME managing director from firm V

Nearly one half of SMEs with websites claimed that their sales have increased since they introduced websites. Part of the reasons is that having a website has allowed customers to visit and inquire about their products and services. However, interestingly, in depth interviews showed contrasting views among these managers (This will be discussed in detail in the next section).

Enhanced firm status (36%) was listed as the fourth major benefits that the SME respondents in the survey claimed they have gained. The interviews, on the other hand, portrayed otherwise. Out of 17 SMEs that have

website, 15 remarked that having a website has enhanced their company status. Their firms look more distinguished and credible in the eyes of their potential customers. SME managers felt that a website address on a business card is important, especially when they attend seminars and conferences. Customers, vendors and stakeholders are always enquiring whether they have a website address.

"We have our firm website. You can visit our website and look at the products and services we offer. The website address is on my business card. If you have any questions, feel free to e-mail me. Please tell your friends about our firm and I will give them the best quotation."

SME managing director from firm IV

"People will look down at you if you still don't have a website. Having a website and having the address on my business cards makes me feel good. It shows the customer that your firm is aware of the technology."

SME manager from firm V



In addition to the four benefits, this study also found other benefits from having websites. Only a few of the SME respondents stated that websites have increased

their productivity or reduced operating costs; and not have many of these SMEs had increased their revenue or completed their tasks faster (see Figure 3).

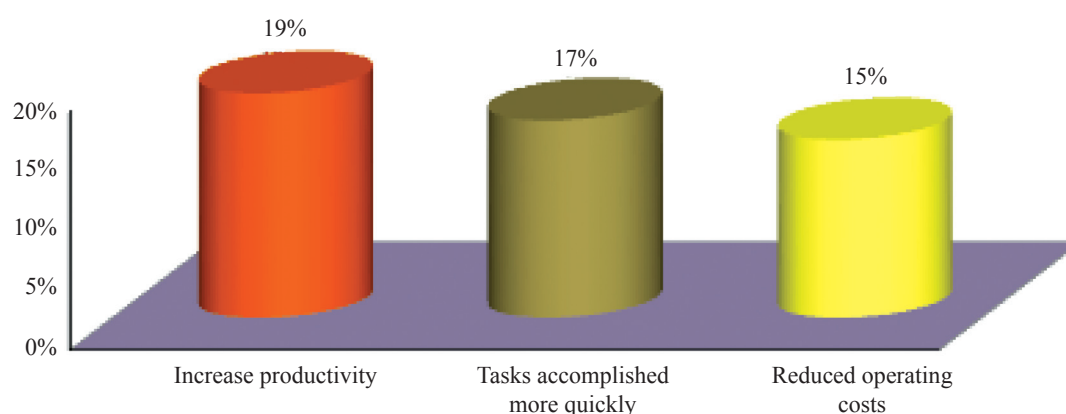


FIGURE 3. Other benefits from websites (n = 309)

Source: survey

**Disagreement on Benefits of E-Commerce** There are a number of benefits for each of the e-commerce's components highlighted by the managers in both the survey and interviews. Despite the constructive statements about e-commerce, there are some disagreements among these managers on the real benefits of e-commerce. These were highlighted during the interview with some of these managers. For example, managers who used e-mail extensively to communicate with their staff believe that e-mail is not suitable for urgent matters. They still believe that telephone call as the best option to communicate urgent matters. In the same vein, managers remarked that online buying is not suitable for bulk purchasing. SME managers felt online buying is not useful unless if they have a deal with the suppliers before they proceed to buy the products.

It is interesting to note that managers who believed that their market has expanded because of the website adoption were still uncertain whether these benefits are achieved from having websites.

"We have a counter system on our firm website. We can trace the number of customers that visited our website. So far, we have more than 20 visitors every day. But I am not so sure if they are new customers."

SME manager from firm VIII

"I am not so sure whether our business expansion is due to having a website. Our website is just another marketing strategy. We also advertise our products and services by sending brochures through e-mail and other electronic media. I have some customers who used our 'online enquiries' service. They only want to know the price of our products and also promotions."

SME manager from firm V

Those who claimed that having a website has increased their sales were also uncertain whether the increase is attributable to the websites.

"Increased sales? I am not so sure. Maybe yes and maybe not. We do sell online but very limited. We have yet to keep track of our online sales."

SME managing director from firm IX

"My sales? I don't think I have gained any sales from our firm website. But I used the Internet a lot to get information from other websites."

SME manager from firm P

Nevertheless, some SME managers during the interviews were not able to say just how their websites have brought benefits. Their firms operate as usual, with or without websites. They felt that their communication with customers and suppliers has improved with the use of e-mail, but they were much less certain as to whether these benefits are due to their firms' websites.

"I don't know what you mean when you say that a firm can increase productivity by having a website. My firm is still running as usual with or without the website. Having a website is just part and parcel of the business nowadays. You need to have a website if you are running a business. People want to know whether your firm keeps up with the trend."

SME manager from firm L

"Don't kid yourself about cost reduction. I think I have to pay more to the e-commerce solution provider to maintain my website than if I were to maintain it myself. I don't have enough time and skill to do so. I still need to hire a web designer. Yet, e-commerce is not my firm's priority. In fact, I have never sold anything online before. Yes, I need to have a website to bid for government tenders. That is the regulation."

SME managing director from firm S

Out of 309 SMEs with websites, 35 SMEs (11%) stated that they do not receive any benefit at all from having websites, particularly complex websites. These SME managers (during the interviews) felt that having a complex website is a waste of money and energy. They said very few customers and potential customers have ever used the online enquiries form on their firms' websites. In

addition, they said nobody has used the online ordering and online payment facility that were provided in the websites of the SMEs. Many SME managers claimed that having a website is just another form of marketing, which may or may not benefit the firm.

“We installed our firm’s website a few years back. We were so enthusiastic at the beginning and my staff accessed it every day to see the response from customers. But nobody ever asked us about our products through the website. In fact, now we need to advertise our firm website on leaflets and in newspapers. There is no point having a website if nobody wants to use it.”

SME managing director from firm J

“No actual benefits of e-commerce as yet. Tell me if any firm has actually benefited from having a website. We want to know how they do it.”

SME managing director (survey)

## DISCUSSION

As stated earlier, the benefits of having e-mail and online purchases are almost consistent among interview respondents. It was found that most managers in this study are contented with e-mail, which is similar with other findings (e.g., Daniel et al. 2003; Hashim 2009; MacGregor & Vrazalic 2007; Ordanini 2006; Scupola 2003). Twenty-four SME managers that used e-mail confirmed that they use e-mail to contact and send messages to their employees, customers, and suppliers. This was confirmed during the interviews with them. They felt e-mail is efficient because they can send messages to their employees, customers, and suppliers without the need to call them. In addition, e-mail allows SMEs to send messages to large groups of people more efficiently.

Although SME manager were uncertain about online bulk purchase, they agreed that online buying allows them to buy items which are not available locally and to get better prices. Managers stated that they buy online for the convenience. This is because they conduct their online purchases at their own time and place. In addition, online buying also enables the managers to scout for cheaper prices on the Internet. This is similar to the finding of MacGregor and Vrazalic (2007) and Scupola (2009).

The questionnaire responses indicated that the benefits SMEs gained from having a website include market expansion, more customers, increased sales, increased productivity, and reduced operating costs, which are similar to the claims of Raymond (2001) and Quayle (2002). Yet, the interviews did not substantiate such claims. Many managers who claimed that they gained benefits from having a website were uncertain whether they had achieved them. This is in line with Gray’s (2006) study that claimed most e-commerce benefits are usually assumed rather than proven. The interviews also disclosed the fact that many managers were still sceptical about websites, particularly websites with online ordering and online payment. They were unsure what websites could offer them. If they do not have a website, they are

considered out-dated. However, if they adopt a complex website, it would cost them a fortune. Gray (2006), too, found that many SMEs doubted whether adopting e-commerce, particularly websites, improved the way they do business.

It should be noted that although the survey found that market expansion as the most important benefit that managers gained from having website, the interviews did not substantiate the claim. During the interviews, the managers stated that they are uncertain whether having a website has expanded their business, or the firm has more customers, or it has increased sales. However, they affirmed that their firm’s status is enhanced by having a website. Managers are pleased to have a business card with their firms’ website address printed on it. This is because it shows that their firms are IT literate and are following the trend, as was also found by Rosenbloom (2002). Once a firm has a website, customers from other countries can browse its website and make contact. According to Rodriguez (2005), this is a first step towards expanding internationally. By having a website, SMEs are able to respond to customers and markets faster and efficiently while enjoying lower logistical, postal, and personnel costs (Lancioni, Smith & Olivia 2000).

Consistent with other studies (e.g. Gray 2006; Hashim 2011; MacGregor & Vrazalic 2007), SME managers in this study are still struggling to reap the real benefits from websites. They are willing to invest in complex websites only if they are convinced that these websites are really needed. When considering the decision whether to implement e-commerce, SMEs managers in this study were more concerned with the value added, rather than the cost of the implementation or operation, which was list as the least benefit gained in this study. This finding was similar to Gray (2006). This view was also supported by Poon and Swatman (1999) who claimed that SME managers will invest if the technology brings them profit and benefits almost immediately.

Although this study did not segregate benefits gained as tangible or intangible, overall, this study found that it was the intangible benefits such as enhanced company status as being most relevant in deciding e-commerce adoption. This is in line with earlier findings, such as Scupola (2003) and MacGregor and Vrazalic (2007). Hence, if the government or ICT consultants intend to plan relevant programmes and initiatives that are aimed at encouraging e-commerce adoption by SMEs, the value of intangible benefits of e-commerce should be included in the programmes. MacGregor and Vrazalic (2007: 177) asserted that if achievable benefits are a “selling point” to encourage SMEs to use e-commerce, then it is important to recognise what those benefits are. This is because failure to do so will result in broken promises in terms of what e-commerce can deliver to the SME sector.

## IMPLICATIONS AND RECOMMENDATIONS

E-commerce demands a radical change in the company’s strategy and logistics. It requires time and resources,

which are precious and scarce in SMEs. It is vital for SME managers to take e-commerce seriously if they really want to invest in it. They need to have a clear objective whether e-commerce brings value to their companies. To do this, they need to find the right information about e-commerce. SME managers need to be educated about the potential of e-commerce and learn from the experience of others, which may not necessarily be Malaysian-based. They also need to identify which e-commerce activities are appropriate for them. Without adequate information, the anticipated benefits of e-commerce and its development cannot be achieved.

The above findings have enormous implications for both academicians and practitioners. For academicians, a major contribution to theory is that this research adds value to the technological diffusion literature, particularly in the DOI and TOE frameworks. Based on the DOI and TOE frameworks as a reference discipline, the researcher developed a conceptual model consisting of the consequences (i.e. perceived benefits and benefits realised) of e-commerce adoption. Understanding the benefits SME managers gained and disagreements on the benefits gained from each of the e-commerce components adoption provide the researcher with a more fruitful understanding of overall e-commerce adoption. It is hoped that further theoretical development and empirical studies can be made based on this framework such as the factor that contributes to the divergence benefits of e-commerce adoption among SMEs.

For practitioner, they should think about e-commerce after developing their strategies' purposes and plans, and not before. This is to prevent them from being the echo of imitative behaviours (Ordanini 2006). They should not see e-commerce as just an add-on to the current marketing channel, but rather on how to integrate it with their current business as to get the maximum out of it. In order to do that, they need to educate themselves and experience online selling and buying before they adopt e-commerce. They should provide the right information regarding e-commerce to SME managers, such as the pros and cons of e-commerce. It is vital to understand the benefits arising from embarking on e-commerce. They should not regard e-commerce as the solution for every SME, but rather as an alternative way so as to prepare the SME managers with clear objectives and benefits of having e-commerce.

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